

## CLAIMS

We claim:

1. A data storage system for a portable data generating appliance

5 comprising:

a temporary data storage circuit coupled, in use, to receive data from the appliance;

a permanent data storage circuit coupled, in use, to receive data from the temporary data storage circuit; and

10 a control circuit coupled to the temporary data storage circuit and the permanent data storage circuit, the control circuit being adapted to effect transfer of data from the temporary data storage circuit to the permanent data storage circuit.

15 2. A data storage system as claimed in claim 1, wherein the portable data generating appliance is a digital camera.

3. A data storage system as claimed in claim 2, wherein the portable data generating appliance is a digital still image camera.

20 4. A data storage system as claimed in claim 1, wherein the data storage system is contained in an interface card that is separable from the data generating appliance and, in use, is received by the data generating appliance to provide coupling for data transfer from the data generating appliance to said temporary data storage circuit.

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5. A data storage system as claimed in claim 1, wherein the permanent data storage circuit comprises a non-volatile memory module that is detachably coupled to the data storage system to allow a plurality of different memory modules to be used in a single data storage system.

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6. A data storage system as claimed in claim 4, wherein the permanent data storage circuit comprises a non-volatile memory module that is replaceable in the interface card to allow a plurality of different memory modules to be used in a single data storage system.

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7. A data storage system as claimed in claim 3, wherein the temporary data storage circuit has a storage capacity sufficient to store data comprising at least one picture from the digital still image camera.

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8. A data storage system as claimed in claim 7, wherein the temporary data storage circuit comprises RAM.

9. A data storage system as claimed in claim 7, wherein the temporary data storage circuit comprises Flash memory.

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10. A data storage system as claimed in claim 1, wherein the permanent data storage circuit comprises non-volatile write-once memory.

11. A data storage system as claimed in claim 1, wherein the control circuit is operative to effect transfer of data from the temporary data storage circuit to

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the permanent data storage circuit upon occurrence of a predetermined event.

**12.** A data storage system as claimed in claim **11**, wherein the predetermined event comprises a predetermined time period elapsed from the data being received in the temporary data storage circuit from the data generating appliance.

**13.** A data storage system as claimed in claim **11**, wherein the predetermined event comprises further data being received by the temporary data storage circuit from the data generating appliance.

**14.** A data storage system as claimed in claim **13**, wherein the control circuit is effective to simultaneously control transfer of data from the temporary data storage circuit to the permanent data storage circuit and transfer said further data from the data generating appliance into the temporary data storage circuit.

**15.** A data storage system as claimed in claim **11**, wherein the data storage system derives primary operating power from the data generating appliance, and wherein the predetermined event comprises disconnection of power supply from the data generating appliance to the data storage system.

**16.** A data storage system as claimed in claim **15**, including a short term power supply circuit adapted to supply power to the data storage system sufficient to transfer the data contents of the temporary data storage circuit to the permanent data storage circuit.

17. A data storage device for a digital camera, comprising:

a temporary data storage circuit coupled, in use, to receive image data from the camera;

5 a permanent data storage circuit coupled, in use, to receive image data from the temporary data storage circuit; and

a control circuit coupled to the temporary data storage circuit and the permanent data storage circuit, the control circuit being adapted to effect transfer of image data from the temporary data storage circuit to the permanent data storage circuit upon occurrence of a predetermined event.

18. A data storage device as claimed in claim 17, wherein the permanent data storage circuit comprises a non-volatile memory module that is replaceable in the data storage device to allow a plurality of different memory modules to be selectively used therein.

19. A data storage device as claimed in claim 18, wherein the data storage device is contained in an interface card that is separable from the camera and, in use, is received by the camera to provide coupling for transfer of image data from the camera to the temporary data storage circuit.

20. A data storage device as claimed in claim 19, wherein the permanent data storage circuit comprises a non-volatile memory module that is replaceable in the data storage device to allow a plurality of different memory modules to be selectively used therein.

21. A data storage device as claimed in claim 18, wherein the non-volatile memory module contains write-once memory sufficient to store image data for a plurality of pictures from the camera.

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22. A data storage device as claimed in claim 21, wherein the temporary data storage circuit comprises RAM with capacity sufficient to store image data for at least one picture from the camera.

23. A data storage device as claimed in claim 17, wherein the predetermined event comprises a predetermined time period elapsed from the image data being received in the temporary data storage circuit from the camera.

24. A data storage device as claimed in claim 17, wherein the predetermined event comprises further image data being received by the temporary data storage circuit from the camera.

25. A data storage device as claimed in claim 24, wherein the control circuit is effective to simultaneously control transfer of image data from the temporary data storage circuit to the permanent data storage circuit and transfer said further image data from the camera into the temporary data storage circuit.

26. A data storage device as claimed in claim 17, wherein the data storage device derives primary operating power from the camera, and wherein the predetermined event comprises disconnection of power supply from the camera to the

data storage device.

27. A data storage device as claimed in claim **26**, including a short term power supply circuit adapted to supply power to the data storage device in the absence  
5 of power from the camera sufficient to transfer the image data contents of the temporary data storage circuit to the permanent data storage circuit.

28. A method for image data storage in a digital camera, comprising:  
obtaining image data generated by the digital camera representing at least one  
10 picture;  
storing said image data in a temporary data storage circuit coupled to the digital camera; and  
transferring said image data from said temporary data storage circuit to a permanent data storage circuit coupled to the digital camera upon occurrence of a  
15 predetermined event.

29. A method as claimed in claim **28**, wherein the predetermined event comprises expiration of a predetermined time period from the storage of the image data in the temporary data storage circuit.

30. A method as claimed in claim **28**, wherein the predetermined event comprises obtaining further image data generated by the digital camera.

31. A method as claimed in claim **28**, wherein said temporary data storage  
25 circuit and said permanent data storage circuit are contained in an interface card that

is removable from the digital camera.

**32.** A method as claimed in claim **31**, wherein the permanent data storage circuit is contained in a memory module that is removable from the interface card.

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**33.** A method as claimed in claim **32**, wherein the permanent data storage circuit comprises write-once memory.

**34.** A method as claimed in claim **31**, wherein the temporary data storage circuit comprises RAM.

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**35.** A method as claimed in claim **24**, wherein the predetermined event comprises removal of the interface card from the digital camera.